Rufin VANRULLEN

Peer-reviewed Articles since 2016

1. **Devillers, B., Maytié, L., & VanRullen, R. (2024).** Semi-supervised multimodal representation learning through a global workspace. ***IEEE Transactions on Neural Networks and Learning Systems***. doi: 10.1109/TNNLS.2024.3416701 (in press)
2. **Maytié, L., Devillers, B., Arnold, A., & VanRullen, R. (2024).** Zero-shot cross-modal transfer of Reinforcement Learning policies through a Global Workspace. ***RLC 2024: Reinforcement Learning Conference***. arXiv:2403.04588.
3. **Muzellec, S., Andéol, L., Fel, T., VanRullen, R., & Serre, T. (2024).** Saliency strikes back: How filtering out high frequencies improves explanations. ***ICML 2024: International Conference on Machine Learning***, arXiv:2307.09591.
4. **Ferrante, M., Boccato, T., Ozcelik, F., VanRullen, R., & Toschi, N. (2024).** Through their eyes: multi-subject Brain Decoding with simple alignment techniques. ***Imaging Neuroscience***, 2, 1-21.
5. **Decourt, C., VanRullen, R., Salle, D., & Oberlin, T. (2024).** A recurrent CNN for online object detection on raw radar frames. ***IEEE Transactions on Intelligent Transportation Systems***. doi: 10.1109/TITS.2024.3404076 (in press).
6. **Alamia, A., & VanRullen, R. (2024).** A Traveling Waves Perspective on Temporal Binding. ***J Cogn Neurosci***, 36(4), 721-729.
7. **Chalvidal, M., Serre, T., & VanRullen, R. (2024).** Learning functional transduction. ***NeurIPS 2023: Advances in Neural Information Processing Systems***, 37.
8. **Faye, G., Fouilhé, G., & VanRullen, R. (2023).** Mathematical derivation of wave propagation properties in hierarchical neural networks with predictive coding feedback dynamics. ***Bull Mathematical Biology***, 85:80
9. **Ozcelik, F., & VanRullen, R. (2023).** Natural scene reconstruction from fMRI signals using generative latent diffusion. ***Scientific Reports***, 13(1), 15666.
10. **Bielawski, R., & Vanrullen, R. (2023)**. CLIP-based image captioning via unsupervised cycle-consistency in the latent space. ACL 2023: 8th Workshop on Representation Learning for NLP (***RepL4NLP 2023***), 266-275.
11. **Alamia, A., Terral, L., D'ambra, M. R., & VanRullen, R. (2023).** Distinct roles of forward and backward alpha-band waves in spatial visual attention. ***Elife***, *12*, e85035.
12. **Chota, S., VanRullen, R.* & Gulbinaite, R.* (2023).** Random tactile noise stimulation reveals beta-rhythmic impulse response function of the somatosensory system. ***J Neurosci***, 43(17), 3107-3119 .
13. **Alamia, A., Mozafari, M., Choksi, B., & VanRullen, R. (2022).** On the role of feedback in image recognition under noise and adversarial attacks: A predictive coding perspective. ***Neural Networks***. doi: 10.1016/j.neunet.2022.10.020
14. **Chalvidal, M., Serre, T., & VanRullen, R. (2022).** Meta-Reinforcement Learning with Self-Modifying Networks. ***NeurIPS 2022: Advances in Neural Information Processing Systems***, arXiv:2202.02363.
15. **Choksi, B., Mozafari, M., VanRullen, R., & Reddy, L. (2022).** Multimodal neural networks better explain multivoxel patterns in the hippocampus. ***Neural Networks***. doi: 10.1016/j.neunet.2022.07.033
16. **Ozcelik, F., Choksi, B., Mozafari, M., Reddy, L., & VanRullen, R. (2022).** Reconstruction of perceived images from fMRI patterns and semantic brain exploration using Instance-Conditioned GANs**. *Int. Joint Conf. Neural Networks (IJCNN)*.**
17. **VanRullen, R. (2022).** Deep learning in alternate reality. ***Nature Human Behaviour***, 6(1), 27-28.
18. **Vaishnav, M., Cadene, R., Alamia, A., Linsley, D., VanRullen, R., & Serre, T. (2022).** Understanding the computational demands underlying visual reasoning. ***Neural Computation***, 34 (5), 1075-1099
19. **Merholz, G., Grabot, L., VanRullen, R., & Dugué, L. (2022).** Periodic attention operates faster during more complex visual search. ***Scientific Reports***, 12(1), 1-14.
20. **Bielawski, R., Devillers, B., Van de Cruys, T., & VanRullen, R. (2022).** When does CLIP generalize better than unimodal models? When judging human-centric concepts. ACL 2022: 7th workshop on Representation Learning for NLP (***Rep4NLP 2022***), 29-38
21. **Decourt, C., VanRullen, R., Salle, D., & Oberlin, T. (2022).** DAROD: a deep automotive radar object detector on range-doppler maps. ***Proceedings of the 33rd IEEE Intelligent Vehicles Symposium*** (IV 2022), 112-118.
22. **Fakche, C., VanRullen, R., Marque, P., & Dugué, L. (2022).** Alpha Phase-Amplitude Tradeoffs Predict Visual Perception. ***eNeuro***, 9(1).
23. **Luo, C., Chen, W., VanRullen, R., Zhang, Y., & Gaspar, C. M. (2022).** Nudging the N170 forward with prior stimulation—Bridging the gap between N170 and recognition potential. ***Human brain mapping***, 43(4), 1214-1230.
24. **Choksi, B., Mozafari, M., Biggs O'May, C., Ador, B., Alamia, A., & VanRullen, R. (2021).** Predify: Augmenting deep neural networks with brain-inspired predictive coding dynamics. ***NeurIPS 2021: Advances in Neural Information Processing Systems***, 34.
25. **Pang, Z., Biggs O'May, C., Choksi, B. & VanRullen, R. (2021).** Predictive coding feedback results in perceived illusory contours in a recurrent neural network. ***Neural Networks.*** doi: 10.1016/j.neunet.2021.08.024.
26. **VanRullen, R., & Kanai, R. (2021).** Deep learning and the Global Workspace Theory. ***Trends in Neurosciences***. 44(9), 692-704
27. **VanRullen, R., & Alamia, A. (2021).** GAttANet: Global attention agreement for convolutional neural networks. ***Lecture Notes in Computer Science: Artificial Neural Networks and Machine Learning***, 12891, 1-11.
28. **Choksi, B., Mozafari, M., VanRullen, R., & Reddy, L. (2021).** Multimodal neural networks better explain multivoxel patterns in the hippocampus. In Neural Information Processing Systems (NeurIPS) conference: 3rd Workshop on ***Shared Visual Representations in Human and Machine Intelligence*** (SVRHM 2021).
29. **Reddy, L., Self, M.W., Zoefel, B., Poncet, M., Possel, J.K., Peters, J.C., Baayen, J.C., Idema, S., VanRullen, R. and Roelfsema, P.R., (2021).** Theta-phase dependent neuronal coding during sequence learning in human single neurons. ***Nature Communications***, 12(1), 1-9.
30. **Devillers, B., Choksi, B., Bielawski, R., & VanRullen, R. (2021)**. Does language help generalization in vision models? ***CoNLL2021: Proceedings of the 25th Conference on Computational Natural Language Learning***, 171-182.
31. **Reddy, L., Cichy, R. M., & VanRullen, R. (2021).** Representational content of oscillatory brain activity during object recognition: contrasting cortical and deep neural network hierarchies. ***eNeuro***, 8(3).

32. **Chalvidal, M., Ricci, M., VanRullen, R., & Serre, T. (2021).** Go with the flow: Adaptive control for Neural ODEs. ***ICLR 2021: International Conference on Learning Representations.***
33. **Luo, C., Brüers, S., Berry, I., VanRullen, R., & Reddy, L. (2021).** Tentative fMRI signatures of perceptual echoes in early visual cortex. ***NeuroImage***, 237, 118053.
34. **Luo, C., VanRullen, R., & Alamia, A. (2021).** Conscious perception and perceptual echoes: a binocular rivalry study. ***Neuroscience of Consciousness***, 2021(1), niab007.
35. **Chota, S., Marque, P., & VanRullen, R. (2021).** Occipital Alpha-TMS causally modulates Temporal Order Judgements: Evidence for discrete temporal windows in vision. ***NeuroImage***, 237, 118173.
36. **Alamia, A., Luo, C., Ricci, M., Kim, J., Serre, T., & VanRullen, R. (2021).** Differential involvement of EEG oscillatory components in sameness vs. spatial-relation visual reasoning tasks. ***eNeuro,*** 8(1).
37. **Alamia, A., Timmermann, C., Nutt, D. J., VanRullen, R.*, & Carhart-Harris, R. L.* (2020).** DMT alters cortical travelling waves. ***eLife*** 9, e64623.
38. **Pang, Z., Alamia, A., & VanRullen, R. (2020).** Turning the Stimulus On and Off Changes the Direction of α Traveling Waves. ***eNeuro*** 7(6).
39. **Alamia, A., Gauducheau, V., Paisios, D., & VanRullen, R. (2020).** Comparing feedforward and recurrent neural network architectures with human behavior in artificial grammar learning. ***Scientific Reports*** 10(1), 1-15.
40. **Schwenk, J. C., VanRullen, R., & Bremmer, F. (2020).** Dynamics of visual perceptual echoes following short-term visual deprivation. ***Cerebral Cortex Communications*.**
41. **Mozafari, M., Reddy, L., & VanRullen, R. (2020).** Reconstructing Natural Scenes from fMRI Patterns using BigBiGAN. ***Int. Joint Conf. Neural Networks (IJCNN)*.**
42. **Chota, S., McLelland, D., Lavergne, L., Zimmermann, E., Cavanagh, P., & VanRullen, R. (2020).** Full Field Masking Causes Reversals in Perceived Event Order. ***Front. Neurosci.***, 14, 217.
43. **Gaillard, C., Hassen, S. B. H., Di Bello, F., Bihan-Poudec, Y., VanRullen, R., & Hamed, S. B. (2020).** Prefrontal attentional saccades explore space rhythmically. ***Nature Comm*,** 11(1), 1-13.
44. **Alamia, A., & VanRullen, R. (2019).** Alpha oscillations and traveling waves: Signatures of predictive coding? ***PLoS Biol.***, 17(10).
45. **VanRullen, R., Reddy, L. (2019).** Reconstructing faces from fMRI patterns using deep generative neural networks ***Communications Biology*** 2(1), 193.
46. **Gulbinaite, R., Roozendaal, D. H. M., & VanRullen, R. (2019).** Attention differentially modulates the amplitude of resonance frequencies in the visual cortex**.** ***Neuroimage*,** 203(116146)**.**
47. **Alamia, A., VanRullen, R., Paqualato, E., Mouraux, A., Zenon, A. (2019).** Pupil-linked arousal responds to unconscious surprisal. ***J Neurosci,*** 39(27), 5369-5376.
48. **Dugué, L., Beck, A., Marque, P. & VanRullen, R. (2019).** Contribution of FEF to attentional periodicity during visual search: a TMS study. ***eNeuro,*** 6(3).
49. **Chota, S. & VanRullen, R. (2019).** Visual entrainment at 10 Hz causes periodic modulation of the flash lag illusion**.** ***Front. Neurosci.*** 13(232).
50. **Lozano-Soldevilla, D. & VanRullen, R. (2019).** The hidden spatial dimension of alpha: 10 Hz perceptual echoes propagate as periodic travelling waves in the human brain. ***Cell Reports***, 26(2), 374-380.
51. **Alamia, A., Zenon, A., VanRullen, R., Duque, J. & Derosiere, G. (2018).** Implicit visual cues tune oscillatory motor activity during decision-making. ***Neuroimage***, 186, 424-436.
52. **Chota, S., Luo, C., Crouzet, S.M., Boyer, L., Kienitz, R., Schmid, M.C. & VanRullen, R. (2018).** Rhythmic fluctuations of saccadic reaction time arising from visual competition. ***Scientific Reports*** 8(1), 15889
53. **VanRullen, R. (2018).** Attention cycles. ***Neuron,*** 99(4), 632-634.
54. **Bruers, S. & VanRullen, R. (2018).** Alpha Power Modulates Perception Independently of Endogenous Factors. ***Front. Neurosci.*** 12:279.
55. **Baures, R., Balestra, M., Rosito, M. & VanRullen, R. (2018).** The detrimental influence of attention on time-to-contact perception. ***Att. Percept. Psychophys.*** 80(6), 1591-1598.
56. **Benedetto, A., Lozano-Soldevilla, D. & VanRullen, R. (2018).** Different responses of spontaneous and stimulus-related alpha activity to ambient luminance changes. ***Eur J Neurosci,*** 48(7), 2599-2608.
57. **Edwards, G., VanRullen, R. & Cavanagh, P. (2018).** Decoding trans-saccadic memory. ***J Neurosci*** 38(5), 1114-1123.
58. **Gulbinaite, R., van Viegen, T., Wieling, M., Cohen. M.X. & VanRullen, R. (2017).** Individual alpha peak frequency predicts 10 Hz flicker effects on selective attention. ***J Neurosci,*** 37(42) 10173-10184
59. **Gulbinaite, R., Ilhan, B. & VanRullen, R. (2017).** The triple-flash illusion reveals a driving role of alpha-band reverberations in visual perception. ***J Neurosci*** 37(30), 7219-7230.
60. **Chang, A., Schwartzman, D.J., VanRullen, R., Kanai, R. & Seth, A.K. (2017).** Visual perceptual echo reflects learning of regularities in rapid luminance sequences. ***J Neurosci*** 37(35), 8486-8497.
61. **Brüers, S. & VanRullen, R. (2017).** At what latency does the phase of brain oscillations influence perception? ***eNeuro*** 4(3):e0078-17.2017.
62. **Dugué, L. & VanRullen, R. (2017).** Transcranial Magnetic Stimulation reveals intrinsic perceptual and attentional rhythms. ***Front. Neurosci.*** 11:154.
63. **Zoefel, B. & VanRullen, R. (2017).** Oscillatory mechanisms of stimulus processing and selection in the visual and auditory systems: State-of-the-art, speculations and suggestions. ***Front. Neurosci.*** 11:296.
64. **Edwards, G., Paeye, C., Marque, P., VanRullen, R. & Cavanagh, P. (2017).** Predictive position computations mediated by parietal areas: TMS evidence. ***Neuroimage*** 153, 49-57
65. **VanRullen, R. (2017).** Perception Science in the age of Deep Neural Networks. ***Front. Psychology*** 8:142.
66. **Zoefel, B., Costa-Faidella, J., Lakatos, P., Schroeder, C.E. & VanRullen, R. (2017).** Characterization of neural entrainment to speech with and without slow spectral energy fluctuations in laminar recordings in monkey A1. ***NeuroImage*** 150, 344-357.
67. **Han, B. & VanRullen, R. (2017).** The rhythms of predictive coding? Pre-stimulus phase modulates the influence of shape perception on luminance judgments. ***Scientific Reports*** 7, 43573.
68. **VanRullen, R. (2016).** Perceptual cycles. ***Trends Cogn Sci*** 20(10), 723-735.

69. **McLelland, D. & VanRullen, R. (2016).** Theta-Gamma Coding Meets Communication-through-Coherence: Neuronal Oscillatory Multiplexing Theories Reconciled. ***PLoS Comput Biol*** 12(10), e1005162
70. **Sun, H-M., Inyutina, M., VanRullen, R. & Wu, C-T. (2016).** The temporal advantage for reloading vs. uploading conscious representations decays over time. ***Neurosci Consc*** 216(1), niw017.
71. **VanRullen, R. (2016).** How to evaluate phase differences between trial groups in ongoing electrophysiological signals. ***Front. Neurosci*** 10:426.
72. **Sherman, M. T., Kanai, R., Seth, A. K., & VanRullen, R. (2016).** Rhythmic influence of top-down perceptual priors in the phase of pre-stimulus occipital alpha oscillations. ***J Cogn Neurosci,*** 28(9), 1318-1330.
73. **McLelland, D., Lavergne, L. & VanRullen, R. (2016).** The phase of ongoing EEG oscillations predicts the amplitude of peri-saccadic mislocalization. ***Scientific Reports*** 6, 29335.
74. **Sokoliuk, R. & VanRullen, R. (2016).** Global and local oscillatory entrainment of visual behavior across retinotopic space. ***Scientific Reports*** 6, 25132.
75. **Han, B. & VanRullen, R. (2016).** Shape perception enhances perceived contrast: evidence for excitatory predictive feedback? ***Scientific Reports*** 6, 22944.
76. **Miconi, T. & VanRullen, R. (2016)**. A Feedback Model of Attention Explains the Diverse Effects of Attention on Neural Firing Rates and Receptive Field Structure. ***PLoS Comput Biol*** 12(2): e1004770.
77. **Senoussi, M., Berry, I., VanRullen, R. & Reddy, L. (2016).** Multivoxel Object Representations in Adult Human Visual Cortex Are Flexible: An Associative Learning Study, ***J Cogn Neurosci*** 28(6), 852-868.
78. **Zoefel, B. & VanRullen, R. (2016).** EEG oscillations entrain their phase to high-level features of speech sound. ***Neuroimage,*** 124, 16-13.

Book Chapters since 2016

1. **Sokoliuk, R. & VanRullen, R. (2019).** Perceptual illusions caused by discrete sampling. In ***"The illusions of Time: Philosophical and Psychological Essays on Timing and Time Perception"***, Eds: A. Bardon, V. Arstila, S. Power & A. Vatakis. Palgrave Macmillan, pp. 315-338.
2. **VanRullen, R. (2018).** Perceptual Rhythms, in ***"Stevens Handbook of Experimental Psychology and Cognitive Neuroscience, Vol 2: Sensation, Perception and Attention"*** Ed: J. Serences. Wiley, doi:10.1002/9781119170174.epcn212.

Invited Oral Presentations in International Conferences since 2016

1. **VanRullen, R. (2024).** Multimodal deep learning through a global workspace. Invited presentation, Neuro-AI: Bridging the gap between human and machine Intelligence (Amsterdam, Netherlands).
2. **VanRullen, R. (2024).** Multimodal deep learning through a global workspace. Invited presentation, Neuroscience & Artificial Intelligence (Bordeaux, France).
3. **VanRullen, R. (2024).** Brain-inspired multimodal deep learning. Invited presentation, Modeling of Life: from the atom to the animal (Toulouse, France).
4. **VanRullen, R. (2023).** Deep learning and bio-inspired computation. Invited presentation, BioComp 2023 (Banyuls, France).
5. **VanRullen, R. (2022).** Deep predictive coding for more robust and human-like vision, Invited presentation, IS 2022: SIAM conference on Imaging Science (online).
6. **VanRullen, R. (2021).** Do deep learning latent spaces resemble human brain representations? NeuroCog 2021 (Louvain, Belgium).
7. **VanRullen, R. (2021).** Deep predictive coding for more robust and human-like vision, Invited presentation, SMB 2021: Annual meeting of the Society for Mathematical Biology (online).
8. **VanRullen, R. (2019).** Perceptual Cycles, Waves and Predictive Coding, Invited presentation, Asia-Pacific Conference on Vision (Osaka, Japan).
9. **VanRullen, R. (2019).** Perceptual Cycles, Waves and Predictive Coding, Invited presentation, York University VISTA - Centre for Vision Research International Conference on Predictive Vision, Toronto (Canada).
10. **VanRullen, R. (2019).** Perceptual Cycles, Waves and Predictive Coding, Invited presentation, Dynamics of Vision and Touch (DyViTo), Rauischholzhausen (Germany).
11. **VanRullen, R. (2018).** Perceptual Cycles, Waves and Predictive Coding, Invited presentation, Alpha Scales workshop, European Institute of Theoretical Neuroscience, Paris (France).
12. **VanRullen, R. (2018).** Perceptual Cycles, Waves and Predictive Coding, Invited presentation, Symposium on New trends in decision-making: decision as inference? Paris (France).
13. **VanRullen, R. (2017).** Perceptual Cycles and Waves, Invited presentation, Timing Research Forum, Strasbourg (France).
14. **VanRullen, R. (2017).** Perceptual Cycles, Invited keynote presentation, Association for the Scientific Study of Consciousness meeting, Beijing, (China).
15. **VanRullen, R. (2017).** Perceptual Cycles in Vision and Audition, Invited presentation, Neural Oscillations in Speech and Language Processing Symposium, Berlin (Germany).

Conference Proceedings since 2016:

1. **Maytié, L., Devillers, B., Arnold, A., & VanRullen, R. (2024).** Zero-shot cross-modal transfer of Reinforcement Learning policies through a Global Workspace. ***RLC 2024: Reinforcement Learning Conference***. arXiv:2403.04588.
2. **Muzellec, S., Andéol, L., Fel, T., VanRullen, R., & Serre, T. (2024).** Saliency strikes back: How filtering out high frequencies improves explanations. ***ICML 2024: International Conference on Machine Learning***, arXiv:2307.09591.
3. **VanRullen, R. (2024).** Multimodal deep learning through a global workspace. Invited presentation, Neuro-AI: Bridging the gap between human and machine Intelligence (Amsterdam, Netherlands).
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5. **VanRullen, R. (2024).** Brain-inspired multimodal deep learning. Invited presentation, Modeling of Life: from the atom to the animal (Toulouse, France).

6. **Chalvidal, M., Serre, T., & VanRullen, R. (2024).** Learning functional transduction. ***NeurIPS 2023: Advances in Neural Information Processing Systems***, 37.
7. **VanRullen, R. (2023).** Deep learning and bio-inspired computation. Invited presentation, BioComp 2023 (Banyuls, France).
8. **Muzellec, S., Alamia, A., Serre, T. & VanRullen, R. (2023).** Benefits of synchrony: Improving deep neural networks using complex values and Kuramoto synchronization. Cognitive Computational Neuroscience (CCN 2023), Oxford (UK).
9. **Bielawski, R., & Vanrullen, R. (2023).** CLIP-based image captioning via unsupervised cycle-consistency in the latent space. ACL 2023: 8th Workshop on Representation Learning for NLP (RepL4NLP 2023).
10. **Chalvidal, M., Serre, T., & VanRullen, R. (2022).** Meta-Reinforcement Learning with Self-Modifying Networks. NeurIPS 2022: Advances in Neural Information Processing Systems, 35.
11. **Alamia, A., Mozafari, M., Choksi, B. & VanRullen, R. (2022).** On the role of feedback in visual processing: a predictive coding perspective. Cognitive Computational Neuroscience (CCN 2022), San Francisco (USA).
12. **Choksi, B., VanRullen, R. & Reddy, L. (2022).** Do multimodal neural networks better explain human visual representations than vision-only networks? CCN Cognitive Computational Neuroscience (CCN 2022), San Francisco (USA).
13. **Muzellec, S., Chalvidal, M., Serre, T. & VanRullen, R. (2022).** Accurate implementation of computational neuroscience models through neural ODEs. Cognitive Computational Neuroscience (CCN 2022), San Francisco (USA).
14. **Ozcelik, F., Choksi, B., Mozafari, M., Reddy, L., & VanRullen, R. (2022).** Reconstruction of perceived images from fMRI patterns and semantic brain exploration using Instance-Conditioned GANs. International Joint Conference on Neural Networks (IJCNN).
15. **Bielawski, R., Devillers, B., Van de Cruys, T., & VanRullen, R. (2022).** When does CLIP generalize better than unimodal models? When judging human-centric concepts. ACL 2022: 5th workshop on Representation Learning for NLP (Rep4NLP 2022)
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17. **VanRullen, R. (2022).** Deep predictive coding for more robust and human-like vision, Invited presentation, IS 2022: SIAM conference on Imaging Science (online).
18. **VanRullen, R. (2021).** Do deep learning latent spaces resemble human brain representations? NeuroCog 2021 (Louvain, Belgium).
19. **VanRullen, R. (2021).** Deep predictive coding for more robust and human-like vision, Invited presentation, SMB 2021: Annual meeting of the Society for Mathematical Biology (online).
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21. **VanRullen, R., & Alamia, A. (2021).** GAttANet: Global attention agreement for convolutional neural networks. ICANN 2021: International Conference on Artificial Neural Networks.
22. **Choksi, B., Mozafari, M., Biggs O'May, C., Ador, B., Alamia, A., & VanRullen, R. (2021).** Predify: Augmenting deep neural networks with brain-inspired predictive coding dynamics. NeurIPS 2021: Advances in Neural Information Processing Systems, 34.
23. **Devillers, B., Choksi, B., Bielawski, R., & VanRullen, R. (2021).** Does language help generalization in vision models? ViGIL workshop, NAACL 2021.
24. **Choksi, B., Mozafari, M., VanRullen, R., & Reddy, L. (2021).** Multimodal neural networks better explain multivoxel patterns in the hippocampus. In Neural Information Processing Systems (NeurIPS) conference: 3rd Workshop on Shared Visual Representations in Human and Machine Intelligence (SVRHM 2021).
25. **Fakche, C., VanRullen, R., Marque, P. & Dugué, L. (2021).** Causal link between the phase and amplitude of spontaneous alpha oscillations, cortical excitability and visual perception. European Conference on Visual Perception (online).
26. **Chalvidal, M., Ricci, M., VanRullen, R., & Serre, T. (2021).** Go with the flow: Adaptive control for Neural ODEs. ICLR 2021: International Conference on Learning Representations.
27. **Choksi, B., Mozafari, M., Biggs O'May, C., Ador, B., Alamia, A. & VanRullen, R. (2020).** Brain-inspired predictive coding dynamics improve the robustness of deep neural networks. NeurIPS 2020 Workshop SVRHM
28. **Pang, Z., Choksi, B., Biggs O'May, C. & VanRullen, R. (2020).** Predictive coding results in perceived illusory contours in a recurrent neural network. NeurIPS 2020 Workshop SVRHM
29. **VanRullen, R. & Reddy, L. (2020)**. Brain decoding with GANs. WCNP: Winter Conference on Neural Plasticity
30. **Mozafari, M., Reddy, L., & VanRullen, R. (2020).** Reconstructing Natural Scenes from fMRI Patterns using BigBiGAN. Int. Joint Conf. Neural Networks (IJCNN)
31. **Alamia, A., Gauducheau, V., Paisios, D. & VanRullen, R. (2019).** Which neural network architecture matches human behavior in artificial grammar learning? Annual Conference on Cognitive Computational Neuroscience (CCN), Berlin (Germany).
32. **Schwenk, J., Zavitz, E., VanRullen, R., Price, N. S. & Bremmer, F. (2019).** Neural correlates of perceptual echoes in marmoset primary visual cortex. Society for Neuroscience meeting (Chicago, USA).
33. **VanRullen, R. (2019).** Perceptual Cycles, Waves and Predictive Coding, Invited presentation, Asia-Pacific Conference on Vision (Osaka, Japan).
34. **VanRullen, R. (2019).** Perceptual Cycles, Waves and Predictive Coding, Invited presentation, York University VISTA - Centre for Vision Research International Conference on Predictive Vision, Toronto (Canada).
35. **VanRullen, R. (2019).** Perceptual Cycles, Waves and Predictive Coding, Invited presentation, Dynamics of Vision and Touch (DyViTo), Rauischholzhausen (Germany).
36. **Luo, C., Brüers, S., Berry, I., VanRullen, R. & Reddy, L. (2019).** fMRI signatures of perceptual echoes in early visual cortex. Vision Sciences Society Annual Meeting, St Pete Beach (USA)
37. **Merholz, G., VanRullen, R. & Dugué, L. (2019).** Oscillations modulate attentional search performance periodically. Vision Sciences Society Annual Meeting, St Pete Beach (USA)
38. **VanRullen, R. (2018).** Perceptual Cycles, Waves and Predictive Coding, Invited presentation, Alpha Scales workshop, European Institute of Theoretical Neuroscience, Paris (France).
39. **Schwenk, J., VanRullen, R. & Bremmer, F. (2018).** The effects of short-term monocular deprivation on visual perceptual echoes. Society for Neuroscience meeting (San Diego, USA).
40. **VanRullen, R. & Reddy, L. (2018).** Reconstructing faces from fMRI patterns using Generative Adversarial Networks. Annual Conference on Cognitive Computational Neuroscience (CCN), Philadelphia (USA).
41. **Alamia, A. & VanRullen, R. (2018).** Predictive Coding Produces Alpha-band Rhythmic Travelling Waves. Annual Conference on Cognitive Computational Neuroscience (CCN), Philadelphia (USA).
42. **VanRullen, R. (2018).** Perceptual Cycles, Waves and Predictive Coding, Invited presentation, Symposium on New trends in decision-making: decision as inference? Paris (France).
43. **VanRullen, R. (2017).** Perceptual Cycles and Waves, Invited presentation, Timing Research Forum, Strasbourg (France).
44. **Reddy, L., Cichy, R. & VanRullen, R. (2017).** Using DNNs as a yardstick for estimating the representational value of oscillatory brain signals. Annual Conference on Cognitive Computational Neuroscience (CCN), New York (USA).
45. **VanRullen, R. (2017).** Predictive coding and neural communication delays produce alpha-band oscillatory Impulse Response Functions. Annual Conference on Cognitive Computational Neuroscience (CCN), New York (USA).
46. **Reddy, L., Cichy, R. & VanRullen, R. (2017).** Oscillatory signatures of object recognition across cortical space and time. 40th European Conference on Visual Perception (ECVP), Berlin (Germany).
47. **Brüers, S. & VanRullen, R. (2017).** Does alpha power modulate perception independently of endogenous factors? 13th International Conference for Cognitive Neuroscience (ICON), Amsterdam (Netherlands).

48. **Reddy, L., Cichy, R. & VanRullen, R. (2017).** Oscillatory signatures of object recognition across cortical space and time. Proceedings of the 17th Vision Sciences Society annual meeting, St Pete (Florida, USA).
49. **Brüers, S. & VanRullen, R. (2017).** At what latency does the phase of brain oscillations influence perception? Proceedings of the 17th Vision Sciences Society annual meeting, St Pete (Florida, USA).
50. **Gulbinaite, R., Roozendaal, D. & VanRullen, R. (2017).** Attention effects on steady-state visual evoked potentials in response to 3-80 Hz flicker. Proceedings of the 17th Vision Sciences Society annual meeting, St Pete (Florida, USA).
51. **Edwards, G., VanRullen, R. & Cavanagh, P. (2017).** EEG decoding of pre-saccadic effects on post-saccadic processing. Proceedings of the 17th Vision Sciences Society annual meeting, St Pete (Florida, USA).
52. **Benedetto, A., Lozano-Soldevilla, D. & VanRullen, R. (2017).** Ambient luminance changes modulate oscillatory properties of the visual system. Proceedings of the 17th Vision Sciences Society annual meeting, St Pete (Florida, USA).
53. **Chemla, S., Chavane, F. & VanRullen, R. (2016).** Revealing alpha oscillatory activity using voltage-sensitive dye imaging in monkey V1. European Conference on Visual Perception (Barcelona, Spain).
54. **Edwards, G., Marque, P., VanRullen, R. & Cavanagh, P. (2016).** Predictive position percepts mediated by parietal areas: TMS evidence. Proceedings of the 16th Vision Sciences Society annual meeting, St Pete (Florida, USA).
55. **Gulbinaite, R., Ilhan, B. & VanRullen, R. (2016).** Something out of nothing: The role of alpha-frequency reverberation in the triple-flash illusion. Proceedings of the 16th Vision Sciences Society annual meeting, St Pete (Florida, USA).
56. **Lozano-Soldevilla, D. & VanRullen, R. (2016).** The hidden spatial dimension of alpha: occipital EEG channels encode contralateral and ipsilateral visual space at distinct phases of the alpha cycle. Proceedings of the 16th Vision Sciences Society annual meeting, St Pete (Florida, USA).
57. **Crouzet, S. & VanRullen, R. (2016).** The half-time groove of divided attention: differences in EEG and decoding power spectra when attending to one vs. two items. Proceedings of the 16th Vision Sciences Society annual meeting, St Pete (Florida, USA).
58. **Bruers, S. & VanRullen, R. (2016).** Visual target detection in temporal white-noise: A “universal” forward model using oscillatory impulse response functions. Proceedings of the 16th Vision Sciences Society annual meeting, St Pete (Florida, USA).